

**A B S T R A C T**

The invention relates to a device for implanting at least one row of  $X$  radioactive seeds and  $Y$  non-radioactive spacers with  $X \in [1, 2, \dots]$  and  $Y \in [0, 1, \dots]$  in a desired configuration to a desired location in an animal body for effecting radiation therapy of cancerous tissue in said body, said device comprising: at least one elongated hollow needle with an open distal end to be inserted towards said desired location in the body and with a proximal end to be connected to a seed loading apparatus; and at least one pushing element for implanting during retraction of the elongated hollow needle said row of radioactive seeds and non-radioactive spacers from said seed loading apparatus through said hollow needle towards said location.

The prior art rows of seeds/spacers have the disadvantage, that after insertion into the body or near to the tissue to be irradiated no physical relation between the inserted seeds and spacers exists other than through the tissue of the body, thus affecting the radiation treatment to be performed.

Therefore in order to avoid mutual displacement of the seeds/spacers after insertion of the row into the body due to movements of the patient the device according to the invention further comprises at least one tube-shaped element with at least one open end to be inserted through said hollow needle towards said desired location; and at least one tube-shaped sleeve member with an open distal and open proximal end for inserting said tube-shaped element through said hollow needle towards said desired location, wherein said tube-shaped element serves to accommodate said row of radioactive seeds and non-radioactive spacers.